

## Division of Environmental Biology (Core Programs) (DEB)

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### PROGRAM SOLICITATION

NSF 20-502

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REPLACES DOCUMENT(S):

NSF 18-587

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National Science Foundation

Directorate for Biological Sciences  
Division of Environmental Biology

#### Full Proposal Deadline(s):

Proposals Accepted Anytime

### IMPORTANT INFORMATION AND REVISION NOTES

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Description of the Bridging Ecology and Evolution (BEE) special category has been revised.

Instructions for submitting NSFDEB-NERC proposals have been revised.

Description of how to report the public release of data from previously funded projects in the "Results from Prior NSF Support" section has been updated.

Any proposal submitted in response to this solicitation should be submitted in accordance with the revised *NSF Proposal & Award Policies & Procedures Guide* (PAPP) ([NSF 19-1](#)), which is effective for proposals submitted, or due, on or after January 28, 2019.

### SUMMARY OF PROGRAM REQUIREMENTS

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#### General Information

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##### Program Title:

Division of Environmental Biology (DEB)  
Core Programs

##### Synopsis of Program:

**The Division of Environmental Biology (DEB) Core Track** supports research and training on evolutionary and ecological processes acting at the level of populations, species, communities, and ecosystems. DEB encourages research that elucidates fundamental principles that identify and explain the unity and diversity of life and its interactions with the environment over space and time. Research may incorporate field, laboratory, or collection-based approaches; observational or manipulative studies; synthesis activities; phylogenetic discovery projects; or theoretical approaches involving analytical, statistical, or computational modeling. Proposals should be submitted to the core clusters (Ecosystem Sciences, Evolutionary Processes, Population and Community Ecology, and Systematics and Biodiversity Sciences). DEB also encourages interdisciplinary proposals that cross conceptual boundaries and integrate over levels of biological organization or across multiple spatial and temporal scales. Research addressing ecology and ecosystem science in the marine biome should be directed to the Biological Oceanography Program in the Division of Ocean Sciences; research addressing evolution and systematics in the marine biome should be directed to the Evolutionary Processes or Systematics and Biodiversity Science programs in DEB.

All DEB programs also encourage proposals that leverage NSF-supported data networks, databases, centers, and other forms of scientific infrastructure, including but not limited to the National Ecological Observatory Network (NEON), Environmental Data Initiative (EDI), and Integrated Digitized Biocollections (iDigBio).

**The Rules of Life Track** supports integrative proposals that span population, species, community and ecosystem scales normally funded by DEB, to organismal, cellular and molecular scales typically funded by other divisions in the Biological Sciences. Discovery of fundamental principles and enabling infrastructure will advance understanding and further predict how key properties of living systems emerge from the interaction of genomes, phenotypes, and environment acting over space and time. This track provides opportunities to advance understanding of the Rules of Life by new mechanisms for review and funding of proposals that span two or more divisions in the Biological Sciences Directorate.

##### Cognizant Program Officer(s):

Please note that the following information is current at the time of publishing. See program website for any updates to the points of contact.

- Division of Environmental Biology, telephone: (703) 292-8480, email: [debquestions@nsf.gov](mailto:debquestions@nsf.gov)

**Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):**

- 47.074 --- Biological Sciences

## Award Information

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**Anticipated Type of Award:** Standard Grant or Continuing Grant

**Estimated Number of Awards:** 120 each year, pending availability of funds.

**Anticipated Funding Amount:** \$100,000,000 for new awards each year pending availability of funds.

## Eligibility Information

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**Who May Submit Proposals:**

Proposals may only be submitted by the following:

- Institutions of Higher Education (IHEs) - Two- and four-year IHEs (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Special Instructions for International Branch Campuses of US IHEs: If the proposal includes funding to be provided to an international branch campus of a US institution of higher education (including through use of subawards and consultant arrangements), the proposer must explain the benefit(s) to the project of performance at the international branch campus, and justify why the project activities cannot be performed at the US campus.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.

**Who May Serve as PI:**

There are no restrictions or limits.

**Limit on Number of Proposals per Organization:**

There are no restrictions or limits.

**Limit on Number of Proposals per PI or Co-PI:**

There are no restrictions or limits.

## Proposal Preparation and Submission Instructions

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**A. Proposal Preparation Instructions**

- **Letters of Intent:** Not required
- **Preliminary Proposal Submission:** Not required
- **Full Proposals:**
  - Full Proposals submitted via FastLane: *NSF Proposal and Award Policies and Procedures Guide* (PAPPG) guidelines apply. The complete text of the PAPPG is available electronically on the NSF website at: [https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=papppg](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=papppg).
  - Full Proposals submitted via Grants.gov: *NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov* guidelines apply (Note: The *NSF Grants.gov Application Guide* is available on the Grants.gov website and on the NSF website at: [https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=grantsgovguide](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide)).

**B. Budgetary Information**

- **Cost Sharing Requirements:**

Inclusion of voluntary committed cost sharing is prohibited.
- **Indirect Cost (F&A) Limitations:**

Not Applicable
- **Other Budgetary Limitations:**

Not Applicable

**C. Due Dates**

- **Full Proposal Deadline(s):**

Proposals Accepted Anytime

## Proposal Review Information Criteria

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### Merit Review Criteria:

National Science Board approved criteria. Additional merit review considerations apply. Please see the full text of this solicitation for further information.

## Award Administration Information

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### Award Conditions:

Standard NSF award conditions apply.

### Reporting Requirements:

Standard NSF reporting requirements apply.

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## I. INTRODUCTION

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**The Division of Environmental Biology (DEB) Core Track** supports research and training on evolutionary and ecological processes acting at the level of populations, species, communities, and ecosystems. DEB encourages research that elucidates fundamental principles that identify and explain the unity and diversity of life and its interactions with the environment over space and time. Research may incorporate field, laboratory, or collection-based approaches; observational or manipulative studies; synthesis activities; phylogenetic discovery projects; or theoretical approaches involving analytical, statistical, or computational modeling. Proposals should be submitted to the core clusters (Ecosystem Sciences, Evolutionary Processes, Population and Community Ecology, Systematics and Biodiversity Sciences). DEB also encourages interdisciplinary proposals that cross conceptual boundaries and integrate over levels of biological organization, or across multiple spatial and temporal scales. Research addressing ecology and ecosystem science in the marine biome should be directed to the Biological Oceanography Program in the Division of Ocean Sciences; research addressing evolution and systematics in the marine biome should be directed to the Evolutionary Processes or Systematics and Biodiversity Science programs in DEB.

All DEB programs also encourage proposals that leverage NSF-supported data networks, data bases, centers, and other forms of scientific infrastructure, including but not limited to the National Ecological Observatory Network (NEON), Environmental Data Initiative (EDI), and Integrated Digitized Biocollections (iDigBio).

**The Rules of Life (RoL) Track** supports integrative research and training that aims to identify the underlying general principles that operate across subsets of hierarchical levels of living systems, ranging from molecules to organisms to ecosystems. These projects should explain emergent properties, e.g., robustness, adaptability. Discovery of fundamental principles and enabling infrastructure will advance understanding and further predictive capability of how key properties of

living systems emerge from the interaction of genomes, phenotypes, and environment acting over space and time. Research activities under Rules of Life should lead to new understanding of how higher-order structures and functions result from the interactions of heterogeneous biological components, as shaped by environmental and evolutionary processes.

## II. PROGRAM DESCRIPTION

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Proposals are welcome in all areas of science supported by the Division of Environmental Biology.

*Ecosystem Science Cluster (ES):* [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503663](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503663)

*Evolutionary Processes Cluster (EP):* [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503664](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503664)

*Population and Community Ecology Cluster (PCE):* [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503665](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503665)

*Systematics and Biodiversity Science Cluster (SBS):* [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503666](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503666)

**Special Categories Included in the DEB Core Track**

### 1) Bridging Ecology and Evolution (BEE)

The **BEE special category** supports integrative research and training proposals that aim to understand the dynamic interaction of ecological and evolutionary processes and feedbacks at any temporal and spatial scale. BEE proposals are encouraged to use novel approaches to address questions that cross conceptual boundaries and integrate ecology and evolution; it is not intended to support projects that fall squarely within the purview of any single DEB core cluster. Studies may be empirical, theoretical, or both. **The Project Description of all BEE proposals must clearly describe how and in what ways the research will advance understanding of the dynamic interactions between ecological and evolutionary processes.** The title of such proposals should begin with the acronym "BEE:" and be submitted to any of the DEB core clusters. Proposals seeking to bridge ecology and evolution in the marine biome should be submitted to either EP or SBS with the Biological Oceanography program in the Division of Ocean Sciences, Directorate for Geosciences, selected as an additional program.

### 2) Small Grants

The Division welcomes proposals for Small Grants to the core programs via this solicitation. Projects with total budgets of \$200,000 or less should be identified as such with the designation "SG:" as a prefix to the project title in the full proposal. These awards are intended to support full-fledged research projects that simply require smaller budgets. Small Grant projects will be assessed based on the same merit review criteria as all other proposals. Research Experiences for Undergraduates (REU) projects can be requested as part of the full proposal for a Small Grant. Funds requested for REU educational supplements can be in addition to the \$200,000 funding limit for SG projects. Small Grants are also eligible to request post-award educational supplements for REU, RET, RAHSS, and ROA projects as described on the [DEB supplement request website](#).

### 3) Research in Undergraduate Institutions (RUI)

Proposals from RUI-eligible institutions that are designated as RUI projects must be submitted to the current RUI solicitation. The submitting institution must identify the appropriate DEB core program for consideration of the project on the cover sheet. The title of such proposals should begin with the acronym "RUI:". RUI proposals must include the required RUI documentation. If the proposal is a collaborative, only the RUI-eligible institution(s) should submit to the RUI solicitation and include the RUI acronym in the title; other institutions should submit to this DEB solicitation. Additional information on the scope of RUI projects and the additional, specific content requirements of those proposals can be found at [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5518](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5518). Please note: proposals from RUI-eligible institutions are not required to use the RUI designation; such proposals should be submitted through the current DEB solicitation.

### 4) NERC and BSF International Collaborative Proposals

The core programs will accept proposals for international collaborative research under two separate agreements for joint review between: 1) NSF and the Natural Environment Research Council (NERC) of UK Research and Innovation (UKRI) and 2) NSF and the U.S.-Israel Binational Science Foundation (BSF). Submission instructions for both opportunities are detailed below.

International collaborative proposals are expected to adhere to the eligibility requirements, remit, funding limits, and grant durations for the agency from which funding is sought (NSF, BSF or NERC) and must represent an integrated collaborative effort.

If an international collaborative proposal is awarded, the U.S. researchers will receive funding from NSF and the international researchers will receive funding from the international partner agency. Questions regarding these activities can be directed to [NSFDEB-NERC@nsf.gov](mailto:NSFDEB-NERC@nsf.gov) or [NSFDEB-BSF@nsf.gov](mailto:NSFDEB-BSF@nsf.gov) respectively. These agreements do not preclude other international collaborations.

**Submission of NSF & NERC Collaborative proposals** Proposers designate a "lead" agency, either NSF or NERC, based on where the largest proportion of the research lies. The title of the proposal should begin with "NSFDEB-NERC:" followed with the substantive title. The lead agency will carry out the review. While not identical in their review process, both the NSF and NERC ask reviewers to evaluate proposed projects on the basis of scientific/intellectual merit as well as broader societal impacts. Proposers are encouraged to confirm their lead agency designation at [international@nerc.ac.uk](mailto:international@nerc.ac.uk) for NERC and [NSFDEB-NERC@nsf.gov](mailto:NSFDEB-NERC@nsf.gov) for NSF/DEB.

Proposers must follow the submission guidelines and deadlines for the lead agency, and adhere to the NERC submission limits. NSFDEB-NERC proposals cannot be submitted to the Rules of Life Track.

For NSF-lead proposals, applicants are required to submit an email to [NSFDEB-NERC@nsf.gov](mailto:NSFDEB-NERC@nsf.gov) ahead of the planned proposal submission. This email should be jointly prepared by US and UK researchers, and provide a clear outline of the research proposed, a listing of senior personnel, and a bottom line budget for both US and UK researchers. This information will be shared with NERC to check for eligibility (whether the proposed research fits within the participating agencies' remit and whether the proposed researchers and institutions meet eligibility requirements).

NERC-lead proposals are accepted under either the Standard Research Grants or Large Research Grants scheme for NERC Discovery Science and should follow the NERC guidelines for applicants (<http://www.nerc.ac.uk/funding/available/researchgrants/international/>). For Standard Research Grants applicants are

required to submit a Letter of Intent (LOI) to [international@nerc.ac.uk](mailto:international@nerc.ac.uk) three months ahead of the July standard grant full proposal closing date to which the applicants plan to submit. For Large Research Grants an outline proposal must be submitted via the Je-S system in accordance with usual large grant outline closing date and requirements. Note: For both NERC-lead Standard and Large Research Grant proposals, the NSF (non-lead) portion of the project budget cannot exceed \$500,000.

**Submission of NSF & BSF Collaborative proposals** Detailed submission instructions are described in the Dear Colleague Letter [NSF 17-120](#). NSF is always designated as the "lead" agency and NSF will conduct the review of these submissions. The title of the proposal should begin with "**NSFDEB-BSF:**" followed with the substantive title. The Israeli investigator(s) must submit a parallel proposal to BSF in accordance with BSF guidelines for applicants (<http://www.bsf.org.il/ElectronicSubmission/GatewayFormsAndGuidelines.aspx>).

All NERC-Collaborative and BSF-Collaborative submissions to DEB will be reviewed alongside other proposals received in the same review period.

### The Rules of Life (RoL) Track

The Rules of Life track supports integrative research and training projects that aim to identify the underlying general principles that operate across subsets of hierarchical levels of living systems, from molecules to organisms to ecosystems. These projects should explain emergent properties, e.g., robustness, adaptability. Discovery of fundamental principles and enabling infrastructure will advance understanding and further predictive capability of how key properties of living systems emerge from the interaction of genomes, phenotypes, and environment acting over space and time. Research activities under Rules of Life should lead to new understanding of how higher-order structures and functions result from the interactions of heterogeneous biological components, as shaped by environmental and evolutionary processes.

Proposals submitted to the Rules of Life (RoL) track must integrate research activities across multiple levels of biological organization, and thereby span funding programs beyond a single division in the Directorate for Biological Sciences (BIO). It is expected that RoL proposals will bring together diverse teams of scientists to create novel framings and solutions for conceptual problems.

To be responsive to the RoL track, proposed activities must:

- Engage or enable innovative approaches to fundamental questions in biology;
- Promise results or approaches that are generalizable beyond particular study systems;
- Seek to discover, enable and/or test foundational principles (rules, theory) that explain or predict the emergence of complex phenomena in biology; and
- Apply integrative approaches that span levels of biological organization beyond the funding programs within a single BIO division.

Additional priorities for Rules of Life proposals include research projects that:

- Emphasize scaling and feedback mechanisms across hierarchical levels of biological organization, including research spanning spatial and temporal scales;
- Use or develop novel approaches or tools to fill significant gaps in understanding structure and function of biological systems;
- Leverage existing infrastructure, data products, and other resources to increase the efficiency and effectiveness of research and training activities;
- Effectively integrate research and cross-disciplinary training throughout the duration of the project; and
- Build research capacity among traditionally underrepresented groups.

The Rules of Life track is common to each of the core research program solicitations in the Divisions of Biological Infrastructure, Environmental Biology, Integrative Organismal Systems, and Molecular and Cellular Biosciences. Proposals submitted to this track will be evaluated by two or more of these BIO divisions. Proposals should be submitted to a program in one of these divisions, and also must identify one or more programs in other BIO divisions for review. Proposal titles should start with the designation "**RoL:**". Prior to external review, proposals will be discussed among Program Officers from the two or more BIO divisions named in the proposal. If judged to be relevant to only one division, the proposal will be returned without review as non-responsive to the RoL track. NSFDEB-NERC proposals cannot be submitted to the RoL Track.

## III. AWARD INFORMATION

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Estimated program budget, number of awards and average award size/duration are subject to the availability of funds. For FY 2020, it is estimated that \$100 million will be available to fund approximately 120 new awards.

## IV. ELIGIBILITY INFORMATION

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### Who May Submit Proposals:

Proposals may only be submitted by the following:

- Institutions of Higher Education (IHEs) - Two- and four-year IHEs (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Special Instructions for International Branch Campuses of US IHEs: If the proposal includes funding to be provided to an international branch campus of a US institution of higher education (including through use of subawards and consultant arrangements), the proposer must explain the benefit(s) to the project of performance at the international branch campus, and justify why the project activities cannot be performed at the US campus.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.

### Who May Serve as PI:

There are no restrictions or limits.

**Limit on Number of Proposals per Organization:**

There are no restrictions or limits.

**Limit on Number of Proposals per PI or Co-PI:**

There are no restrictions or limits.

**Additional Eligibility Info:**

Note that institution types, other than those listed in the "Who May Submit Proposals" section, are allowed to receive subawards through an eligible institution, but there are limitations on what can be supported by those subawards. The PI should discuss with a program officer any plans to incorporate a subaward to an institution not eligible to submit directly to this solicitation.

## V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

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### A. Proposal Preparation Instructions

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**Full Proposal Preparation Instructions:** Proposers may opt to submit proposals in response to this Program Solicitation via FastLane, or Grants.gov.

- Full proposals submitted via FastLane: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the *NSF Proposal & Award Policies & Procedures Guide (PAPPG)*. The complete text of the PAPPG is available electronically on the NSF website at: [https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=pappg](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg). Paper copies of the PAPPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-8134 or by e-mail from [nsfpubs@nsf.gov](mailto:nsfpubs@nsf.gov). Proposers are reminded to identify this program solicitation number in the program solicitation block on the NSF Cover Sheet For Proposal to the National Science Foundation. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.
- Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov should be prepared and submitted in accordance with the *NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov*. The complete text of the *NSF Grants.gov Application Guide* is available on the Grants.gov website and on the NSF website at: ([https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=grantsgovguide](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide)). To obtain copies of the Application Guide and Application Forms Package, click on the Apply tab on the Grants.gov site, then click on the Apply Step 1: Download a Grant Application Package and Application Instructions link and enter the funding opportunity number, (the program solicitation number without the NSF prefix) and press the Download Package button. Paper copies of the Grants.gov Application Guide also may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-8134 or by e-mail from [nsfpubs@nsf.gov](mailto:nsfpubs@nsf.gov).

In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

**Collaborative Proposals.** All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system. PAPPG Chapter II.D.3 provides additional information on collaborative proposals.

See PAPPG Chapter II.C.2 for guidance on the required sections of a full research proposal submitted to NSF. Please note that the proposal preparation instructions provided in this program solicitation may deviate from the PAPPG instructions.

**Cover Sheet:** FastLane Users: Select the program solicitation number from the pull-down list. The DEB Programs will automatically appear. Select the lead DEB Program. Grants.gov users: The program solicitation will be pre-populated by Grants.gov on the NSF Grant Application Cover Page. Refer to Section VI.1.2. of the NSF Grants.gov Application Guide for specific instructions on how to designate the NSF Unit of Consideration. Entries on the Cover Sheet are limited to the Principal Investigator and a maximum of four co-Principal Investigators. Beginning Investigators (individuals who have not been a Principal Investigator [PI] or co-Principal Investigator [co-PI] on a Federally-funded award with the exception of doctoral dissertation, postdoctoral fellowship or research planning grants) listed as Lead PI must check the box for "Beginning Investigator" on the proposal Cover Sheet.

- If an **RoL Track** submission, select at least one additional BIO Program in DBI, IOS, or MCB.

**Title of Proposed Project:** If appropriate, the title should include acronyms for the following special tracks or categories preceding the substantive title:

- Rules of Life Track "**RoL:**" (requires programs in two BIO divisions)
- Bridging Ecology and Evolution "**BEE:**"
- Small Grants "**SG:**"
- Research in Undergraduate Institutions "**RUI:**"
- DEB-led NERC collaborations "**NSFDEB-NERC:**"
- DEB-led BSF collaborations "**NSFDEB-BSF:**"
- Advancing Revisionary and Taxonomic Systematics "**ARTS:**"
- Poorly Sampled and Unknown Taxa "**PurSUIT:**"
- Multi-institutional collaborative proposals should begin with "**Collaborative Research:**" followed by an optional acronym listed above and then by the substantive title. Unless one of the collaborating institutions is submitting as a RUI, each collaborating institution's submission should use the same substantive title, including capitalization and punctuation.
- Accomplishments Based Renewal "**ABR:**"

**Project Summary:** The Project Summary should include the three sections required by the PAPPG (II.C.2.b): Overview, Intellectual Merit, and Broader Impacts.

- For **RoL Track** submissions, the Overview section of the Project Summary for RoL track proposals is required to specify the secondary relevant BIO Division(s) and program(s).

**Project Description:** The Project Description must include the two sections required by the PAPPG (II.C.2.d): Intellectual Merit, and Broader Impacts. The Project Description is limited to 15 pages. It should also include a section titled **Results from Prior NSF Support**. In addition to the reporting requirement format described by the PAPPG (see Results from Prior NSF Support, II.C.2.d.iii), the Results from Prior NSF Support section must include evidence of deposition of samples, data and/or data products in recognized, accessible, community-accepted repositories by listing such repositories and, if practical, metadata. All publications, data, data products, programs and/or scripts that are specifically mentioned in the Results from Prior NSF Support section must be referenced in the References Cited section and must provide unique, resolvable and persistent identifiers (such as Digital Object Identifiers [DOIs]; Uniform Resource Locators [URLs], or similar). For **BEE proposals**, the Intellectual Merit section must clearly state how and in what ways the proposed work will generate an advanced understanding of integrated ecological and evolutionary processes.

**Biographical Sketches and Current and Pending Support:** Biographical sketches and Current and Pending Support Statements should be submitted for all senior personnel in the full proposal, including U.K. or Israeli investigators if submitting a NERC or BSF collaborative proposal. **Biographical sketches should follow the format described in the PAPPG.** All senior personnel biographical sketches (including subawardees) should be placed in that section of the proposal. Biographical sketches for post-doctoral fellows can optionally be included, but if included, must be added as Non PI/Co-PI Senior Personnel. No biographical sketches should be included in supplementary documents. Biographical sketches should not be included for anyone providing a "Letter of Collaboration".

**Supplementary Documents:** The following documents are uploaded as Supplementary Documents:

- **Data Management Plan.** The PAPPG (II.C.2.j) requires the inclusion of a Data Management Plan with all full proposal submissions. The Data Management Plan can be no longer than two pages and must be inclusive of the entire project. All projects must ensure that data and biological materials are collected, archived, digitized, and made available using methods that allow current and future investigators to access data and material. Funded projects must disseminate project data broadly, using widely accepted electronic data standards, and a named publicly-accessible data site. Investigators are strongly encouraged to make use of appropriate community infrastructure for data management. The Directorate for Biological Sciences provides additional context and guidance to PIs on the preparation of Data Management Plans here: <https://www.nsf.gov/bio/biodmp.jsp>.
- **Postdoctoral Research Mentoring Plan** (if applicable). This one page document should describe the mentoring of all postdocs on the projects, including those at collaborating institutions.
- **Research Experiences for Undergraduates (REU)** (if applicable). Funds to support REUs should be included in the original proposal. A limited number of post-award supplements may be available if such activities were unforeseen at the time of submission and the request broadens participation in STEM fields. Eligibility for post-award educational supplements for REU, RET, RAHSS, and ROA projects is described on the DEB supplement request website: [REU Submission Guidance](#). The descriptions of proposed REU activities should be included in the Supplementary Documents. For REUs, follow the guidelines as described in the REU solicitation ([NSF 19-582](#)). REU projects must involve students in meaningful ways in ongoing research programs or in research projects specifically designed for the REU student. If the intent is to engage students as technicians, then an REU is not the appropriate support mechanism; instead, salary support should be entered on the Undergraduate Students line of the proposal budget. The description of the REU activities is limited to 3 pages. If multiple institutions on a collaborative proposal are requesting funds for REUs, all REU activities should be included in one 3-page supplementary document. All person related costs, including stipends and/or travel should be placed in Participant Support Costs on the budget. Materials and supplies costs should be included under section G1 of the budget. A detailed breakdown of the budget must be included in the budget justification. Budgets for REUs are generally: \$6,000-8,000 per student. Funds requested for REU educational supplements can be in addition to the \$200,000 funding limit for SG projects.
- **Letters of Collaboration.** Supplementary Documents may include letters of collaboration from individuals or organizations that are integral to the proposed project but are neither senior personnel nor supported by subawards. This may include subsidiary involvement in some aspect of the project, cooperation on outreach efforts, or documentation of permission to access materials or data. Letters of collaboration must focus solely on affirming that the individual or organization is willing to collaborate on the project as specified in the Project Description or Facilities, Equipment and Other Resources section of the proposal. No additional description of research activities or endorsements of the potential value or significance of the project may be included. Each letter of collaboration must be signed by the designated collaborator. Requests to collaborators for letters of collaboration should be made by the PI well in advance of the planned proposal submission date because they must be included at the time of the proposal submission. The recommended template for letters of collaboration is provided below:

To: NSF \_\_\_\_\_ (Program Title) \_\_\_\_\_ Program

From: \_\_\_\_\_

*(Printed name of the individual collaborator or name of the organization and name and position of the official submitting this memo)*

By signing below (or substitute: transmitting electronically), I acknowledge that I am listed as a collaborator (or substitute: contributor) on this proposal, entitled "\_\_\_\_ (proposal title) \_\_\_\_\_," with \_\_\_\_\_ (PI name) \_\_\_\_\_ as the Principal Investigator. I agree to \_\_\_\_\_ (description up to 140 characters) \_\_\_\_\_, as described in the Project Description or Facilities, Equipment and Other Resources section of the proposal.

Signed: \_\_\_\_\_

Organization: \_\_\_\_\_

Date: \_\_\_\_\_

#### Single Copy Documents

- **Collaborators & Other Affiliations (COA) Information.** As detailed in the PAPPG (II.C.1.e), information regarding collaborators and other affiliations must be provided for each individual who has a biographical sketch in this proposal. If you have correctly added biographical sketches for all persons, there should be a separate space within Single Copy Documents to upload each individual's COA file. The COA information must be provided through use of the [COA template](#).
- **Suggested Reviewers.** PIs are encouraged to provide a list of suggested reviewers, including the individuals' names, institutions, and areas of expertise, email addresses, and URLs if available. Please ensure no one on this list has a conflict with the proposal.

**Personnel List Spreadsheet.** The spreadsheet template can be found at <https://www.nsf.gov/bio/deb/debpersonnellist.xlsx>. Please read the instructions carefully. Using the template, compile an Excel file that provides information for all persons identified in the proposal as: "PI or co-PI" (i.e., those listed on the cover page); "Other Senior Personnel/Subawardee"; or "Other Personnel" who have a biosketch included in the proposal. Only one spreadsheet should be

submitted per project. All participants in a multi-institutional collaborative proposal should be included on the lead proposal's Personnel List Spreadsheet. The file must include the **FastLane proposal ID assigned after submission of your proposal (i.e., not the Temporary ID # or Grants.gov ID #)**. Once completed, the file should be submitted by email to [debtemplate@nsf.gov](mailto:debtemplate@nsf.gov) within one business day of proposal submission.

**For NERC or BSF Collaborative full proposals**, two additional Supplementary documents and one additional Single Copy Document must be submitted. *Two Supplementary Documents:*

- Funding requested from non-lead agency: A detailed breakdown of funding requested from non-lead agency, using the non-lead agency's budget form.
- For NERC, complete and attach the form found at: <http://www.nerc.ac.uk/funding/available/researchgrants/international/uk-budget-form>
  - For BSF, complete and attach the form found at: [http://www.bsf.org.il/data/FormsToDownload/Budget\\_Page\\_NSF.xlsx](http://www.bsf.org.il/data/FormsToDownload/Budget_Page_NSF.xlsx). Important: The Israeli partners must also submit this information online as part of the parallel submission to BSF. Completing this form does not replace the requirement to submit a budget when using the BSF system.
  - Institutional endorsement: An institutional acknowledgement of the submission must be a signed letter from an authorized institutional representative from the non-lead partner's country with the following text.

*Template to be used for institutional endorsement:*

"I confirm on behalf of \_\_\_\_\_ (insert name of institution) that the \_\_\_\_\_ (pick one: U.S.-U.K. or U.S.-Israel) Collaborative proposal between \_\_\_\_\_ (insert the name of lead agency PI and institution) and \_\_\_\_\_ (insert the name of the non-lead PI and institution) is endorsed and has been submitted by \_\_\_\_\_ (insert name of Research Office), thereby acknowledging the proposed collaboration."

*One Single Copy Document:*

- Consent for sharing of unattributed reviews: Unattributed reviews will be shared with the funding agency partner, NERC or BSF. The following text must be signed by the lead investigator, confirming that the investigators involved in the proposal acknowledge and confirm this fact.

*Template to be used for consent:* "On behalf of the proposal investigators, I, \_\_\_\_\_ (insert Lead PI Name), consent that the Full proposal as well as its unattributed reviews will be shared with the DEB partner funding agency.

Signed: \_\_\_\_\_

Organization: \_\_\_\_\_

Date: \_\_\_\_\_ "

## Full Proposal Checklist For Compliance

Prior to submission, please review your proposal against this checklist to ensure that it is fully compliant with the guidelines provided in this solicitation. Unless stated otherwise, this list applies to all Core and RoL Track proposals:

- The full proposal must be submitted to this Program Solicitation, or the RUI Solicitation if eligible and are providing the required RUI documentation. Do not submit this full proposal to the PAPPG.
  - For the **Core Track** special category proposals, the title should include the appropriate acronym for **BEE, SG, RUI, NSFDEB-NERC, NSFDEB-BSF, ARTS, PurSUIT, or ABR**.
  - For the **RoL Track**, the title should include the **RoL** acronym.
- The **cover page** should identify the program(s) that should consider this project.
  - For the **RoL Track**, the PI must identify at minimum one DEB program and one program in DBI, IOS, or MCB.
- Project Summary** (maximum 1 page) includes as separate sections an Overview, the Intellectual Merit, and the Broader Impacts of the proposed activity.
  - For the **RoL Track**, the Overview section of the Project Summary is required to specify the secondary relevant BIO Division(s) and program(s).
- Project Description** (maximum 15 pages) includes as separate sections addressing Intellectual Merit and Broader Impacts and the Results from Prior NSF Support, if appropriate.
- Biographical Sketches** (maximum 2 pages, each) for all senior personnel - do not bundle multiple biographical sketches into a single file, and do not put biographical sketches in Supplementary Documents.
- Supplementary Documents** should include:
  - The Data Management Plan (maximum 2 pages)
  - The Postdoctoral Mentoring Plan (maximum 1 page), if applicable.
  - Letters of Collaboration that focus solely on affirming the collaboration (see format above). General letters of support are not allowed.
  - REU activities, if proposed, are described in 3 pages maximum, uploaded into Supplementary Documents, and included in both the budget request and the budget justification. For **SG**, REU supplement requests may exceed the \$200,000 cap.
  - For **NERC or BSF** Collaborative full proposals, ensure 1) a detailed non-lead agency budget and 2) an institutional endorsement letter are uploaded as Supplementary Documents.
  - Contact a cognizant Program Officer if you have questions about other Supplementary Documents that you plan to upload.
- Single Copy Documents** should include:
  - Collaborators & Other Affiliations for each person having a biosketch is prepared using the COA template.
  - (Highly Recommended) A list of suggested reviewers, including the individuals' names, institutions, and areas of expertise, email addresses, and URLs if available. Please ensure no one on this list has a conflict of interest with the proposal.
  - For **NERC** and **BSF** Lead Agency proposals, upload a signed consent form for NSF to share unattributed reviews with the partner funding agency.
- Personnel List Spreadsheet** is prepared according to the provided template and emailed to [debtemplate@nsf.gov](mailto:debtemplate@nsf.gov) within one business day of submission.

## B. Budgetary Information

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### Cost Sharing:

Inclusion of voluntary committed cost sharing is prohibited.

## C. Due Dates

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- **Full Proposal Deadline(s):**

Proposals Accepted Anytime

## D. FastLane/Research.gov/Grants.gov Requirements

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### For Proposals Submitted Via FastLane or Research.gov:

To prepare and submit a proposal via FastLane, see detailed technical instructions available at: <https://www.fastlane.nsf.gov/a1/newstan.htm>. To prepare and submit a proposal via Research.gov, see detailed technical instructions available at: [https://www.research.gov/research-portal/appmanager/base/desktop?\\_nfpb=true&\\_pageLabel=research\\_node\\_display&\\_nodePath=/researchGov/Service/Desktop/ProposalPreparationandSubmission.html](https://www.research.gov/research-portal/appmanager/base/desktop?_nfpb=true&_pageLabel=research_node_display&_nodePath=/researchGov/Service/Desktop/ProposalPreparationandSubmission.html). For FastLane or Research.gov user support, call the FastLane and Research.gov Help Desk at 1-800-673-6188 or e-mail [fastlane@nsf.gov](mailto:fastlane@nsf.gov) or [rgov@nsf.gov](mailto:rgov@nsf.gov). The FastLane and Research.gov Help Desk answers general technical questions related to the use of the FastLane and Research.gov systems. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

### For Proposals Submitted Via Grants.gov:

Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. Comprehensive information about using Grants.gov is available on the Grants.gov Applicant Resources webpage: <https://www.grants.gov/web/grants/applicants.html>. In addition, the NSF Grants.gov Application Guide (see link in Section V.A) provides instructions regarding the technical preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: [support@grants.gov](mailto:support@grants.gov). The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

**Submitting the Proposal:** Once all documents have been completed, the Authorized Organizational Representative (AOR) must submit the application to Grants.gov and verify the desired funding opportunity and agency to which the application is submitted. The AOR must then sign and submit the application to Grants.gov. The completed application will be transferred to the NSF FastLane system for further processing.

Proposers that submitted via FastLane or Research.gov may use Research.gov to verify the status of their submission to NSF. For proposers that submitted via Grants.gov, until an application has been received and validated by NSF, the Authorized Organizational Representative may check the status of an application on Grants.gov. After proposers have received an e-mail notification from NSF, Research.gov should be used to check the status of an application.

## VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

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Proposals received by NSF are assigned to the appropriate NSF program for acknowledgement and, if they meet NSF requirements, for review. All proposals are carefully reviewed by a scientist, engineer, or educator serving as an NSF Program Officer, and usually by three to ten other persons outside NSF either as *ad hoc* reviewers, panelists, or both, who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with oversight of the review process. Proposers are invited to suggest names of persons they believe are especially well qualified to review the proposal and/or persons they would prefer not review the proposal. These suggestions may serve as one source in the reviewer selection process at the Program Officer's discretion. Submission of such names, however, is optional. Care is taken to ensure that reviewers have no conflicts of interest with the proposal. In addition, Program Officers may obtain comments from site visits before recommending final action on proposals. Senior NSF staff further review recommendations for awards. A flowchart that depicts the entire NSF proposal and award process (and associated timeline) is included in PAPPG Exhibit III-1.

A comprehensive description of the Foundation's merit review process is available on the NSF website at: [https://www.nsf.gov/bfa/dias/policy/merit\\_review/](https://www.nsf.gov/bfa/dias/policy/merit_review/).

Proposers should also be aware of core strategies that are essential to the fulfillment of NSF's mission, as articulated in *Building the Future: Investing in Discovery and Innovation - NSF Strategic Plan for Fiscal Years (FY) 2018 – 2022*. These strategies are integrated in the program planning and implementation process, of which proposal review is one part. NSF's mission is particularly well-implemented through the integration of research and education and broadening participation in NSF programs, projects, and activities.

One of the strategic objectives in support of NSF's mission is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions must recruit, train, and prepare a diverse STEM workforce to advance the frontiers of science and participate in the U.S. technology-based economy. NSF's contribution to the national innovation ecosystem is to provide cutting-edge research under the guidance of the Nation's most creative scientists and engineers. NSF also supports development of a strong science, technology, engineering, and mathematics (STEM) workforce by investing in building the knowledge that informs improvements in STEM teaching and learning.

NSF's mission calls for the broadening of opportunities and expanding participation of groups, institutions, and geographic regions that are underrepresented in STEM disciplines, which is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

### A. Merit Review Principles and Criteria

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The National Science Foundation strives to invest in a robust and diverse portfolio of projects that creates new knowledge and enables breakthroughs in understanding across all areas of science and engineering research and education. To identify which projects to support, NSF relies on a merit review process that incorporates consideration of both the technical aspects of a proposed project and its potential to contribute more broadly to advancing NSF's mission "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes." NSF makes every effort to conduct a fair, competitive, transparent merit review process for the selection of projects.

## 1. Merit Review Principles

These principles are to be given due diligence by PIs and organizations when preparing proposals and managing projects, by reviewers when reading and evaluating proposals, and by NSF program staff when determining whether or not to recommend proposals for funding and while overseeing awards. Given that NSF is the primary federal agency charged with nurturing and supporting excellence in basic research and education, the following three principles apply:

- All NSF projects should be of the highest quality and have the potential to advance, if not transform, the frontiers of knowledge.
- NSF projects, in the aggregate, should contribute more broadly to achieving societal goals. These "Broader Impacts" may be accomplished through the research itself, through activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. The project activities may be based on previously established and/or innovative methods and approaches, but in either case must be well justified.
- Meaningful assessment and evaluation of NSF funded projects should be based on appropriate metrics, keeping in mind the likely correlation between the effect of broader impacts and the resources provided to implement projects. If the size of the activity is limited, evaluation of that activity in isolation is not likely to be meaningful. Thus, assessing the effectiveness of these activities may best be done at a higher, more aggregated, level than the individual project.

With respect to the third principle, even if assessment of Broader Impacts outcomes for particular projects is done at an aggregated level, PIs are expected to be accountable for carrying out the activities described in the funded project. Thus, individual projects should include clearly stated goals, specific descriptions of the activities that the PI intends to do, and a plan in place to document the outputs of those activities.

These three merit review principles provide the basis for the merit review criteria, as well as a context within which the users of the criteria can better understand their intent.

## 2. Merit Review Criteria

All NSF proposals are evaluated through use of the two National Science Board approved merit review criteria. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two merit review criteria are listed below. **Both** criteria are to be given **full consideration** during the review and decision-making processes; each criterion is necessary but neither, by itself, is sufficient. Therefore, proposers must fully address both criteria. (PAPPG Chapter II.C.2.d(i). contains additional information for use by proposers in development of the Project Description section of the proposal). Reviewers are strongly encouraged to review the criteria, including PAPPG Chapter II.C.2.d(i), prior to the review of a proposal.

When evaluating NSF proposals, reviewers will be asked to consider what the proposers want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits could accrue if the project is successful. These issues apply both to the technical aspects of the proposal and the way in which the project may make broader contributions. To that end, reviewers will be asked to evaluate all proposals against two criteria:

- **Intellectual Merit:** The Intellectual Merit criterion encompasses the potential to advance knowledge; and
- **Broader Impacts:** The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

The following elements should be considered in the review for both criteria:

1. What is the potential for the proposed activity to
  - a. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
  - b. Benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or organization to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?

Broader impacts may be accomplished through the research itself, through the activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. NSF values the advancement of scientific knowledge and activities that contribute to achievement of societally relevant outcomes. Such outcomes include, but are not limited to: full participation of women, persons with disabilities, and underrepresented minorities in science, technology, engineering, and mathematics (STEM); improved STEM education and educator development at any level; increased public scientific literacy and public engagement with science and technology; improved well-being of individuals in society; development of a diverse, globally competitive STEM workforce; increased partnerships between academia, industry, and others; improved national security; increased economic competitiveness of the United States; and enhanced infrastructure for research and education.

Proposers are reminded that reviewers will also be asked to review the Data Management Plan and the Postdoctoral Researcher Mentoring Plan, as appropriate.

### Additional Solicitation Specific Review Criteria

**BEE** proposals will be evaluated for their integration of ecological and evolutionary processes to facilitate our understanding of populations, communities, ecosystems, and clades.

**Rules of Life (RoL) Track** proposals will be evaluated with respect to their potential to discover, enable and/or test foundational principles that explain or predict the emergence of complex phenomena in biology.

## B. Review and Selection Process

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Proposals submitted in response to this program solicitation will be reviewed by Ad hoc Review and/or Panel Review.

Reviewers will be asked to evaluate proposals using two National Science Board approved merit review criteria and, if applicable, additional program specific criteria. A summary rating and accompanying narrative will generally be completed and submitted by each reviewer and/or panel. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for award. NSF strives to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. Large or particularly complex proposals or proposals from new awardees may require additional review and processing time. The time interval begins on the deadline or target date, or receipt date, whichever is later. The interval ends when the Division Director acts upon the Program Officer's recommendation.

After programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications. After an administrative review has occurred, Grants and Agreements Officers perform the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at their own risk.

Once an award or declination decision has been made, Principal Investigators are provided feedback about their proposals. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers or any reviewer-identifying information, are sent to the Principal Investigator/Project Director by the Program Officer. In addition, the proposer will receive an explanation of the decision to award or decline funding.

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## VII. AWARD ADMINISTRATION INFORMATION

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### A. Notification of the Award

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Notification of the award is made to *the submitting organization* by a Grants Officer in the Division of Grants and Agreements. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See Section VI.B. for additional information on the review process.)

### B. Award Conditions

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An NSF award consists of: (1) the award notice, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award notice; (4) the applicable award conditions, such as Grant General Conditions (GC-1)\*; or Research Terms and Conditions\* and (5) any announcement or other NSF issuance that may be incorporated by reference in the award notice. Cooperative agreements also are administered in accordance with NSF Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC) and the applicable Programmatic Terms and Conditions. NSF awards are electronically signed by an NSF Grants and Agreements Officer and transmitted electronically to the organization via e-mail.

\*These documents may be accessed electronically on NSF's Website at [https://www.nsf.gov/awards/managing/award\\_conditions.jsp?org=NSF](https://www.nsf.gov/awards/managing/award_conditions.jsp?org=NSF). Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-8134 or by e-mail from [nsfpubs@nsf.gov](mailto:nsfpubs@nsf.gov).

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *Proposal & Award Policies & Procedures Guide* (PAPPG) Chapter VII, available electronically on the NSF Website at [https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=pappg](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg).

### C. Reporting Requirements

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For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer no later than 90 days prior to the end of the current budget period. (Some programs or awards require submission of more frequent project reports). No later than 120 days following expiration of a grant, the PI also is required to submit a final project report, and a project outcomes report for the general public.

Failure to provide the required annual or final project reports, or the project outcomes report, will delay NSF review and processing of any future funding increments as well as any pending proposals for all identified PIs and co-PIs on a given award. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project-reporting system, available through Research.gov, for preparation and submission of annual and final project reports. Such reports provide information on accomplishments, project participants (individual and organizational), publications, and other specific products and impacts of the project. Submission of the report via Research.gov constitutes certification by the PI that the contents of the report are accurate and complete. The project outcomes report also must be prepared and submitted using Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted on the NSF website exactly as it is submitted by the PI.

More comprehensive information on NSF Reporting Requirements and other important information on the administration of NSF awards is contained in the NSF *Proposal & Award Policies & Procedures Guide* (PAPPG) Chapter VII, available electronically on the NSF Website at [https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=pappg](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg).

## VIII. AGENCY CONTACTS

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Please note that the program contact information is current at the time of publishing. See program website for any updates to the points of contact.

General inquiries regarding this program should be made to:

- Division of Environmental Biology, telephone: (703) 292-8480, email: [debquestions@nsf.gov](mailto:debquestions@nsf.gov)

For questions related to the use of FastLane or Research.gov, contact:

- FastLane and Research.gov Help Desk: 1-800-673-6188
- FastLane Help Desk e-mail: [fastlane@nsf.gov](mailto:fastlane@nsf.gov).
- Research.gov Help Desk e-mail: [rgov@nsf.gov](mailto:rgov@nsf.gov)

For questions relating to Grants.gov contact:

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via telephone: 1-800-518-4726; e-mail: [support@grants.gov](mailto:support@grants.gov).

General inquiries regarding this program should be made to:

- Ecosystem Science Cluster, [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503663](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503663)
- Evolutionary Processes Cluster, [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503664](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503664)
- Population and Community Ecology Cluster, [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503665](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503665)
- Systematics and Biodiversity Science, [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503666](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503666)

Inquiries regarding U.K.-Collaborative proposals (NSFDEB-NERC) should be made to:

- For questions related to NERC led submissions email: [international@nerc.ac.uk](mailto:international@nerc.ac.uk)
- For questions related to DEB led submissions email: [NSFDEB-NERC@nsf.gov](mailto:NSFDEB-NERC@nsf.gov)

Inquiries regarding Israeli-Collaborative proposals (NSFDEB-BSF) should be made to:

- For questions related to the BSF submission email: Mrs. Yael Dressler ([yael@bsf.org.il](mailto:yael@bsf.org.il); (972 2 5828239)
- For questions related to DEB submission email: [NSFDEB-BSF@nsf.gov](mailto:NSFDEB-BSF@nsf.gov)

## IX. OTHER INFORMATION

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The NSF website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this website by potential proposers is strongly encouraged. In addition, "NSF Update" is an information-delivery system designed to keep potential proposers and other interested parties apprised of new NSF funding opportunities and publications, important changes in proposal and award policies and procedures, and upcoming NSF [Grants Conferences](#). Subscribers are informed through e-mail or the user's Web browser each time new publications are issued that match their identified interests. "NSF Update" also is available on [NSF's website](#).

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this mechanism. Further information on Grants.gov may be obtained at <https://www.grants.gov>.

## ABOUT THE NATIONAL SCIENCE FOUNDATION

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The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950, as amended (42 USC 1861-75). The Act states the purpose of the NSF is "to promote the progress of science; [and] to advance the national health, prosperity, and welfare by supporting research and education in all fields of science and engineering."

NSF funds research and education in most fields of science and engineering. It does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the US. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

NSF receives approximately 55,000 proposals each year for research, education and training projects, of which approximately 11,000 are funded. In addition, the Foundation receives several thousand applications for graduate and postdoctoral fellowships. The agency operates no laboratories itself but does support National Research Centers, user facilities, certain oceanographic vessels and Arctic and Antarctic research stations. The Foundation also supports cooperative research between universities and industry, US participation in international scientific and engineering efforts, and educational activities at every academic level.

*Facilitation Awards for Scientists and Engineers with Disabilities (FASSED)* provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See the *NSF Proposal & Award Policies & Procedures Guide* Chapter II.E.6 for instructions regarding preparation of these types of proposals.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090 and (800) 281-8749, FIRS at (800) 877-8339.

The National Science Foundation Information Center may be reached at (703) 292-5111.

The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics, and engineering.

To get the latest information about program deadlines, to download copies of NSF publications, and to access abstracts of awards, visit the NSF Website at <https://www.nsf.gov>

- **Location:** 2415 Eisenhower Avenue, Alexandria, VA 22314
- **For General Information** (NSF Information Center): (703) 292-5111
- **TDD (for the hearing-impaired):** (703) 292-5090
- **To Order Publications or Forms:**  
Send an e-mail to: [nsfpubs@nsf.gov](mailto:nsfpubs@nsf.gov)  
or telephone: (703) 292-7827
- **To Locate NSF Employees:** (703) 292-5111

## PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; and project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to proposer institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies or other entities needing information regarding applicants or nominees as part of a joint application review process, or in order to coordinate programs or policy; and to another Federal agency, court, or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See [System of Record Notices](#), NSF-50, "Principal Investigator/Proposal File and Associated Records," and NSF-51, "Reviewer/Proposal File and Associated Records." Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

An agency may not conduct or sponsor, and a person is not required to respond to, an information collection unless it displays a valid Office of Management and Budget (OMB) control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

Suzanne H. Plimpton  
Reports Clearance Officer  
Office of the General Counsel  
National Science Foundation  
Alexandria, VA 22314

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